

Cooperative Engagement Capability (CEC)

Executive Summary

The surface ship version of Cooperative Engagement Capability (CEC) remains operationally effective and suitable. However, deficiencies in target tracking and engagement have been identified that will not be corrected until an improved track correlation system, currently under development, is available.

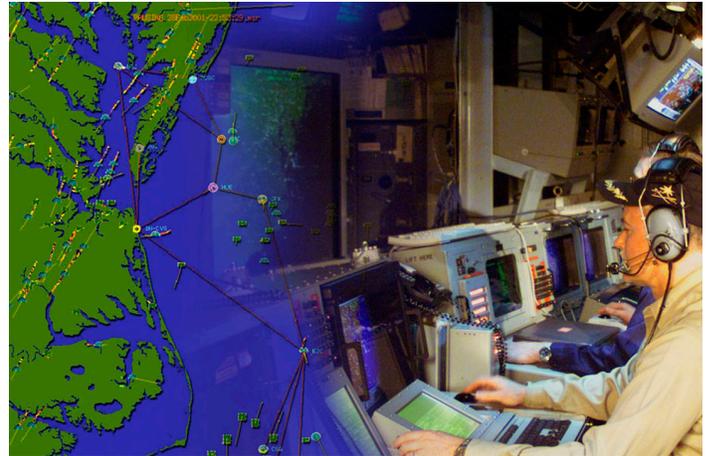
System

- The CEC is a system of hardware and software that allows surface ships (USG-2 variant) and E-2 aircraft (USG-3 variant) to share radar data. It consists of two main hardware pieces:
 - Cooperative Engagement Processor (CEP) to collect and fuse radar data
 - Data Distribution System (DDS) to exchange the CEP data with other CEC-equipped units
- An open architecture upgrade using commercial off-the-shelf (COTS) components is under development.

Mission

Ships and aircraft equipped with CEC:

- Accomplish air defense missions by sharing a comprehensive situational awareness of all air contacts



- Have a higher likelihood of air defense mission accomplishment because a CEC-equipped ship can fire missiles at a hostile air contact without that ship having actual radar contact

Prime Contractor

- Raytheon

Activity

- Commander, Operational Test and Evaluation Force (COTF) conducted FOT&E of CEC in February 2008 in USS *Ronald Reagan* (CVN 76) and USS *New Orleans* (LPD-18). Testing examined the integration of CEC with the Ship Self-Defense System (SSDS) Mark 2 Mod 1 (installed in USS *Ronald Reagan*) and with the SSDS Mark 2 Mod 2 (installed in USS *New Orleans*). COTF accomplished the FOT&E in accordance with a DOT&E-approved test plan. COTF has not yet published a report on results of this testing.
- COTF initiated planning for FOT&E of CEC equipped with a new signal data processor that the Navy will install on the E-2D aircraft.

Assessment

- The USG-2 variant of CEC remains operationally effective and suitable; however, deficiencies in target tracking and engagement continue to occur and will not be corrected until an improved track correlation system is successfully developed and available.
- Initial indications show that limited CEC operator proficiency did not support a complete evaluation of end-to-end combat system interoperability with a strike group composed of ships

equipped with SSDS-based combat systems operating with CEC-equipped Aegis destroyers.

- Initial indications show that testers did not gather enough data during the FOT&E period to allow for a complete evaluation of CEC reliability when integrated with the SSDS Mark 2 Mod 2.

Recommendations

- Status of Previous Recommendations. The Navy satisfied one of the two recommendations from FY05, but did not address any of the FY06 recommendations.
- FY08 Recommendations. The Navy should:
 1. Update the Test and Evaluation Master Plan to include details of CEC FOT&E testing with the Joint Lightweight Elevated Sensor System and the Navy Integrated Fire Control – Counter Air capability.
 2. Ensure testers gather required data for a complete evaluation of CEC reliability when integrated with the SSDS Mark 2 Mod 2.

NAVY PROGRAMS